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When Envy Leads to Schadenfreude

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Abstract

Previous research has yielded inconsistent findings concerning the relationship between envy and schadenfreude. Three studies examined whether the distinction between benign and malicious envy can resolve this inconsistency. We found that malicious envy is related to schadenfreude, while benign envy is not. This result held both in the Netherlands where benign and malicious envy are

indicated by separate words (Study 1: Sample A, $N = 139$; Sample B, $N = 150$), and in the U.S. where a single word is used to denote both types (Study 2, $N = 180$; Study 3, $N = 349$). Moreover, the effect of malicious envy on schadenfreude was independent of other antecedents of schadenfreude (such as feelings of inferiority, disliking the target person, anger, and perceived deservedness). These findings improve our understanding of the antecedents of schadenfreude and help reconcile seemingly contradictory findings on the relationship between envy and schadenfreude.

Keywords: Envy, Malicious Envy, Benign Envy, Schadenfreude, Social Comparison, Deservedness

When Envy Leads to Schadenfreude

“... the man who is delighted by others’ misfortunes is identical with the man who envies others’ prosperity”

Aristotle (350BC/1954, Book 2, Chapter 9).

Does envy lead to schadenfreude (pleasure at the misfortunes of others)? Although Aristotle argued for their similarity, empirical research has not yet provided a definite answer, because of contradictory findings. Whereas some studies showed that envy leads to more schadenfreude (e.g., Cikara & Fiske, 2012; Krizan & Johar, 2012; Smith, Turner, Garonzik, Leach, Urch-Druskat, & Weston, 1996; Van Dijk, Ouwerkerk, Goslinga, Nieweg, & Gallucci, 2006), others did not (e.g., Feather & Sherman, 2002; Feather, Wenzel, & McKee, 2013; Hareli & Weiner, 2002; Leach & Spears, 2008). In this article we aim to reconcile these seemingly contradictory findings, starting with the notion that there are two types of envy: malicious and benign. We hypothesize that only malicious envy increases schadenfreude. Before turning to the studies, we first discuss research on the envy-schadenfreude link and present the theoretical rationale behind our research.

Envy is the emotion that occurs when “a person lacks another’s superior quality, achievement, or possession and either desires it or wishes that the other lacked it” (Parrott & Smith, 1993, p. 906). It is a painful, frustrating, and negative feeling that can lead to harmful behavior toward the envied (for reviews see Fiske, 2011; Miceli & Castelfranchi, 2007; Smith & Kim, 2007). It seems plausible that such an emotion would lead to schadenfreude when misfortune befalls that person (Smith, Powell, Combs, & Schurtz, 2009). Indeed, this has been found repeatedly (e.g., Smith et al., 1996; Van Dijk et al., 2006). Neural responses of envy relate to those of schadenfreude at both interpersonal (Immordino-Yang, McColl, Damasio, & Damasio, 2009; Takahashi et al., 2009) and intergroup levels (Cikara & Fiske, 2012).

Others, however, have disputed the role of envy in schadenfreude, arguing that other factors are better predictors of schadenfreude, such as disliking the other (Hareli & Weiner, 2002), resentment (Feather & Sherman, 2002; Feather et al., 2013), deservedness (Feather & Nairn, 2005), or inferiority (Leach & Spears, 2008). Of course the envious experience often contains these feelings

as well (dislike for the other, resenting the person, feelings of inferiority, etc.), and these authors largely argued that it is one of those feelings, rather than envy itself, that led to more schadenfreude.

To summarize, a relationship between envy and schadenfreude is regularly found, but some argue that this relationship runs indirectly through other factors that are related to envy, not envy itself. We theorize that envy has a unique and direct impact on schadenfreude, in addition to any other related factors, but that this is only true for so-called malicious envy, not for benign envy. In reviewing previous work on the envy-schadenfreude link Van Dijk et al. (2006) noted that research reporting a positive relation between envy and schadenfreude typically included hostility-related questions in the assessment of envy, whereas research reporting no relation included only desire-related questions. These differences in measurement correspond with the differences between benign envy and malicious envy as they have been described by various scholars (Belk, 2011; Parrott, 1991; Van de Ven, Zeelenberg, & Pieters, 2009).

Benign and malicious envy. Research (Crusius & Lange, 2014; Van de Ven et al., 2009) found this distinction between the envy types in countries where two words exist for both envy types (Germany, the Netherlands), but also in countries where only one word exists for envy (U.S.A., Spain). According to this research, both types of envy have in common that they follow from an upward social comparison, entail feelings of inferiority and frustration, and activate a motivation to level the difference with a superior other. Note that whether one sees envy as a discrete emotion (a general envy) or as having two subtypes is a matter of the level at which one looks at the emotion. On a higher level, envy is the pain caused by the good fortune of others (Aristotle, 350BC). On a more detailed and lower level, one can distinguish benign from malicious envy as that helps to make specific predictions. The relationship between envy and schadenfreude is one such example. For a more thorough discussion on this distinction, see Van de Ven et al. (2009). In the discussion we will return to how our current findings relate to alternative views on envy and possible subtypes.

According to Van de Ven et al. (2009), the most important difference between benign and malicious envy is how these emotions motivate the resolution of the social inequality that causes it. Both experiences contain frustration over realizing that someone else has something that one lacks

oneself. But benign envy resolves this frustration via a motivation to move oneself up via improving one's own performance (e.g., Van de Ven, Zeelenberg, & Pieters, 2011a; 2011b) and leads to an increased focus on the coveted object (Crusius & Lange, 2014). Therefore, we predicted that when people are envied benignly and something bad happens to them, this will not affect schadenfreude.

In contrast, malicious envy resolves the frustration that arises when another is better off by activating a motivation to pull the other person down (see Smith & Kim, 2007) and leads to an increased focus on the other person (Crusius & Lange, 2014). Someone who is maliciously envious would like to see the other lose the superior position (Van de Ven et al., 2009). Because of this, we predicted that for the maliciously envious there would be joy over misfortune as the motivational goal of malicious envy is to pull down the person who is better off. If a misfortune befalls the superior other this motivational goal is satisfied, triggering positive feelings. Goals that are satisfied give rise to positive affect (Carver & Scheier, 1990), and schadenfreude can thus be seen as the positive affect arising from the satisfaction that the goal of reducing the status of a superior other is attained.

When we refer to benign and malicious envy in this manuscript, we thus follow the definitions by Van de Ven et al. (2009). This view is theoretically derived from a feeling-is-for-doing perspective on emotions (Zeelenberg, Nelissen, Breugelmans, & Pieters, 2008), which emphasizes that emotions have evolved because they were adaptive for our survival (Cosmides & Tooby, 2000). They help to activate and prioritize goals and therefore motivate certain behavior (Frijda, 1986). Motivational tendencies, such as the moving-up motivation for benign envy and the pulling-down motivation for malicious envy, are thus integral parts of an emotion in this perspective (Frijda, 1987; Roseman, Wiest, & Swartz, 1994). Note that we refer to motivational *tendencies*: whether a person will act upon a certain motivation will of course depend on, for example, situational constraints or self-control.

We thus predict that malicious envy will lead to schadenfreude, while benign envy will not. A general form of envy, one we see as a combination of both subtypes, is predicted to not (or only weakly) be related to schadenfreude (because it combines the envy type that is expected to have an effect with the type not expected to have one). Importantly, we expected that malicious envy leads to

schadenfreude over and above four other variables that are related to both envy and schadenfreude, namely 1) a subjective sense that the advantage enjoyed by the target person is undeserved, 2) anger or resentment toward the target person, 3) disliking the target person, and 4) feelings of inferiority. We explain why it is important to include these variables next.

Deservedness, anger, and resentment. Deservedness of the misfortune is an important predictor of schadenfreude. Schadenfreude is evoked when another's misfortune is perceived as deserved (Feather, 1999; Feather, 2006; Feather & Sherman, 2002; Feather et al., 2013; Van Dijk et al., 2009; Van Dijk, Ouwerkerk, Goslinga, & Nieweg, 2005). For example, Van Dijk et al. (2009) found that participants experienced more schadenfreude toward high achievers with undeserved achievements as opposed to those with deserved achievements, which was mediated by perceived deservedness of the misfortune. In other words, people think an unfairly advantaged person deserves a misfortune, which intensifies schadenfreude if a misfortune occurs. Although perceived deservedness of the misfortune might have an effect via anger or resentment (e.g., Feather & Nairn, 2005), that perceptions of deservedness are an important antecedent of schadenfreude is clear.

There has been debate about the exact nature of deservedness concerns in envy (e.g., Feather & Sherman, 2002; Miceli & Castelfranchi, 2007; Smith & Kim, 2007). We think that treating perceived (un)deservedness of advantages as an appraisal that differentially elicits benign and malicious envy helps to better understand these apparent complexities (Feather & McKee, 2009; Feather, McKee, & Bekker, 2011; Van de Ven, Zeelenberg, & Pieters, 2012). For example, Van de Ven et al. (2012) found that another's perceived deserved advantage typically elicits benign envy, while another's perceived undeserved advantage typically elicits malicious envy. In Study 2 we tested this directly by manipulating perceived deservedness of the advantage held by the person who was better off and testing whether the effect of that manipulation on schadenfreude was mediated by malicious envy. This prediction for Study 2 differed from findings from Feather and Sherman (2002), who found that undeserved advantages led to more resentment (assessed with a measure that combined questions asking about anger, indignation, and injustice) but not to envy (assessed with a measure that combined questions asking about envy, jealousy, and wanting to be

like the other). They concluded that “feelings of pleasure in another’s misfortune are fuelled by resentment rather than by envy” (p. 961). From our perspective, Feather and Sherman measured envy with two items that we would call general envy items (envy, jealousy) and one that we consider a benign envy item (be like the other). We therefore think that their envy measure actually tapped into either benign or more general envy, which could explain why deservedness did not have an effect on envy and why envy did not lead to schadenfreude, as we expect that only malicious envy will.

Dislike. Another important determinant of schadenfreude is dislike toward the person whom a misfortune befalls. Hareli and Weiner (2002) found that disliking another person predicted schadenfreude toward this person, while envy did not when dislike was taken into account. From our perspective, their four-item envy measure consisted of two general envy questions (measuring “envy” and “jealousy”) and two benign envy questions (“a desire to have what the other has” and “wishing to be like the other”), which could explain why they found no effect of envy on schadenfreude.

Understanding how dislike and envy predict schadenfreude is complicated by the likelihood that envy, especially malicious envy, contains, and indeed cultivates, a component of dislike or hostility toward the other (see Smith & Kim, 2007). We agree with Hareli and Weiner (2002) that dislike likely has a strong impact on schadenfreude, but we predicted that, in addition to dislike, malicious envy would also increase schadenfreude.

Inferiority. Another antecedent of schadenfreude is inferiority. Leach and Spears (2008) found that feelings of ingroup inferiority caused by a prior failure of ingroup members was associated with more schadenfreude when a successful outgroup suffered a misfortune. This link with inferiority was stronger than that of, for example, dislike of the second outgroup and illegitimacy of its advantage, but also much stronger than the effect of envy. From this, Leach and Spears concluded that “schadenfreude has more to do with inferiority of the self than the success of others” (p.1383). As with several previous studies we discussed, Leach and Spears measured envy with questions that seem to tap into benign envy, not malicious envy: “I want to be like...” and “I want to have what

... has." Indeed, the authors noted that their measure of envy was "narrowly defined as coveting another's success" (p. 1393). Our view is that this assessment of benign envy could explain why they did not find an effect of envy on schadenfreude.

Overview of the Studies

To summarize, we expected that envy and schadenfreude are related but that this relation is only there for malicious envy and not for benign envy. We tested this prediction in three studies, and examined whether malicious envy is related to schadenfreude independently from other constructs that are known to be associated with schadenfreude. We chose to conduct multiple regression analyses that included all variables (envy and the other possible antecedents of schadenfreude) simultaneously as predictors of schadenfreude. For our main goal, to see whether malicious envy leads to schadenfreude, this seems the appropriate test. Other researchers created a conceptual model that tested a structural model of how the various variables relate to each other and with schadenfreude eventually (e.g., Feather et al., 2013). We think that such models can indeed help to further our knowledge, but that such an approach would not be suitable for our current research question. In our view, for variables that are so complexly related as those that we studied now, it was not possible to create such a model. For example, dislike can be both an antecedent of envy (people envy those they dislike more) and a consequence (if we envy people, we start to dislike them more; Smith & Kim, 2007). To separate the individual effects of all variables that we used as control variables, manipulations of each variable are necessary. This fell outside the scope of the main goal of the current research.

Study 1 tested the prediction that in The Netherlands malicious envy is associated with more intense schadenfreude, whereas benign envy is not. The Dutch language has two words for the envy types: *benijden* for benign envy and *afgunst* for malicious envy (Van de Ven et al., 2009), which facilitated the measurement of the envy types. Study 2 and 3 extended the findings from Study 1 to a language that has only one word for envy, namely English. Previous research has shown that both types can readily be distinguished even in absence of distinct terms (Van de Ven et al., 2009). We

report how we determined our sample sizes, all data exclusions, all manipulations, and all measures in the studies.

Study 1

Method

Participants. Study 1 used two samples. We aimed to get 140 participants in each sample. Sample A were students at Fontys University of Applied Sciences (53 males, 86 females, $M_{\text{age}} = 20.90$ years, $SD = 2.25$) who participated in a 25-minute session, programmed in Opus Pro, combining several studies (of which ours was one) for which they were paid €5. Sample B were Tilburg University students (57 males, 93 females, $M_{\text{age}} = 20.65$ years, $SD = 2.30$) who participated in a session of 55 minutes, programmed in Qualtrics, combining several studies for which they received €8. We present the results of the samples separately, effectively creating a study with a direct replication.

Materials and procedure. Participants recalled and briefly described a situation in which someone was better off in a domain that was important to them. They answered the following eight questions about their thoughts and feelings in that situation in the order presented here. Perceived *deservedness* of the other's advantage was assessed with: "Did you feel that the other person who you described as being better off deserved or did not deserve that better position?" (-3 very undeserved, 0 neutral, +3 very deserved). *Importance* of the domain was assessed with: "How important was it for you to do well in the domain in which the other was better off?" (0 not important at all; 6 extremely important to me)¹. Participants indicated how much they agreed with "I felt a bit maliciously envious of the other" (*malicious envy/afgunst*), "I felt benignly envious of the other" (*benign envy/benijden*), "I did not really like the other at that time" (*dislike*), "I felt inferior to the other" (*inferiority*), and "I was angry at the other" (*anger*) (0 not at all; 6 very much so).²

Next, participants read "Imagine that the person you have just described would suffer a minor misfortune right after the episode you just described. For example, the person stumbles clumsily in a busy street for everyone to see, spills wine over his or her trousers at a fancy party, etc."

Schadenfreude was assessed by averaging scores on the following three questions (α 's = .87 and

.90, for Sample A and B, respectively): "I would have been a little amused by what happened to him/her," "I would have been pleased by the little misfortune that happened to him/her," and "I'd find it difficult to resist a little smile" (0 not at all; 6 very much so).

Results and Discussion

The mean responses to all questions in both studies are presented in Table 1, as are the correlations among variables. In both samples, perceived undeservedness of the advantage of the other, malicious envy, dislike, and anger correlated with schadenfreude. No relation was found for perceived importance of the domain of comparison with schadenfreude. Two other variables showed mixed findings, as benign envy and feelings of inferiority did not correlate with schadenfreude in Sample A, but did so in Sample B. When we combined the two samples, both benign envy, $r(287) = .20$, $p = .001$, and inferiority, $r(287) = .14$, $p = .020$, showed a significant correlation with schadenfreude.

We thus found that malicious envy was related to schadenfreude, but a better (and more conservative) test of our hypothesis is to include all variables simultaneously and then test which variables predict schadenfreude. Table 1 clearly shows (and theory predicts) that many of the variables we measured correlate to some degree. Table 2 contains the results of a regression analysis, with all variables entered as predictors of schadenfreude. A sizeable portion of the variance in schadenfreude was explained by the model, $F_{\text{SampleA}}(7, 131) = 10.64$, $p < .001$, adjusted- $R^2 = .33$; $F_{\text{SampleB}}(7, 142) = 19.53$, $p < .001$, adjusted- $R^2 = .47$. Most importantly, malicious envy but not benign envy was associated with schadenfreude. Even when we controlled for other variables related to envy and schadenfreude, we found a relationship between malicious envy and schadenfreude. The small correlation between benign envy and schadenfreude disappeared when controlling for the other variables. Both studies also found that disliking the other was related to schadenfreude, as was the case for perceiving that the advantage held by the other was undeserved. We found an effect of anger in Sample B, but not in Sample A. Neither study found a relationship between feelings of inferiority and schadenfreude. We will come back to these findings in the General Discussion.

Study 2

Study 2 tested whether the results of Study 1 generalize to English, which has only a single term for both types of envy. We measured general envy by adding a standard question on how much envy participants had experienced, that did not distinguish between the two envy types. We expected that the general question on envy would not (or only weakly) be related to schadenfreude, because a general measure contains both malicious and benign envy. We also added a question in which we first explained to participants that envy can be seen as having two subtypes, and then asked them to indicate which type of envy they had experienced in the recalled situation. We expected that the more participants indicated their envy was of the malicious type, the more schadenfreude they would experience.

We also included a deservedness manipulation. Earlier research found that malicious envy is more likely to arise when the advantage of the superior other is perceived as undeserved, while benign envy is more likely to occur when it is perceived as deserved (Smith et al., 1994; Van de Ven et al., 2012). The current study resembles one of Van Dijk et al. (2009), who found less schadenfreude when another person held a deserved advantage than when another person held an undeserved advantage. We aimed to extend these findings by testing whether this effect on schadenfreude of a deservedness manipulation can be (partly) accounted for by malicious envy.

Method

Participants. The study was programmed in Qualtrics and participants were recruited via Amazon Mechanical Turk (MTurk). It was only accessible to U.S. based participants.³ The description introduced the study as a 4-5 minute psychological questionnaire with fewer than 15 questions. At the start of the questionnaire participants read that they would be asked to briefly recall an episode of their life, about which they had to write a few lines so that someone reading it would understand the basic situation. We aimed for around 90 participants in each condition and paid people \$0.20 for participating. We eventually had 180 respondents who fully completed the questionnaire (100 males, 80 female; $M_{\text{age}} = 29.32$ years, $SD = 10.29$, range 18 – 64).

Procedure. Participants recalled and briefly described a situation in which someone else was better off than them in a domain important to them, deservedly so or not (Deservedness of Advantage manipulation). The exact instructions (with manipulations in italics) were:

Recall a situation in which someone else was better off than you were. For example, someone who got a better grade than you, made more money, won a prestigious award, etc.

Try to recall a situation:

- In which it was *undeserved* / *deserved* that the other had his or her success
- and the domain in which the other was better than you, was something very important to you

Spend about a minute or two describing the situation. Please give some details, so that someone who reads it understands a little bit about the situation. I do not need long essays (a sentence or two can be sufficient), but the basic situation should be clear.

This created Deserved ($n = 89$) and Undeserved ($n = 91$) conditions.

All dependent measures used seven-point answer scales, for which a slider marked the position. Answers were recorded in one decimal point increments (e.g., a participant could indicate a 5.2 on a measure, rather than 5, if they wanted). The questions were similar to those in Study 1, but because of slight variations in translations we give the exact questions here as well (presented in the order they were given to participants). Deservedness was measured with "Did you feel that the other person who you described as being better off deserved or did not deserve that better position?" (-3 very undeserved, 0 neutral, +3 very deserved). Whether the domain of comparison was perceived to be important was measured with "How important was it for you to do well in the domain in which the other was better off?" (0 not important at all; 6 extremely important to me). Participants then indicated how much they agreed with the following statements (0 not at all; 6 very much so): "I felt envious of the other" (*general envy*), "I did not really like the other at that time" (*dislike*), "I felt inferior to the other" (*inferior*), and "I was angry at the other" (*anger*).

The schadenfreude measure was the same as in Study 1 ($\alpha = .91$). Participants imagined that the person they had just described would suffer a minor misfortune and indicated how they would feel by answering the following three questions (0 not at all; 6 very much so): "I would have been a little amused by what happened to him/her," "I would have been pleased by the little misfortune that happened to him/her," and "I'd find it difficult to resist a little smile."

We created a passage in which we explained that envy could be divided in subtypes. This explanation was based on a combination of the initial work that separated benign and malicious envy on their motivational consequences (Van de Ven et al., 2009) and recent research by Crusius and Lange (2014) on the attentional focus of the envious. Both types of envy focus on the person and the object of desire (Smith, 2000), but the benignly envious focus their attention most on the *object* of comparison, while the maliciously envious focus their attention most on the *person* holding the advantage (Crusius & Lange, 2014). Note that we did not label the envy types as benign or malicious, but rather gave the description. Participants read:

Research has found that there are actually two types of envy. Both types of envy feel frustrating, but one type focuses mainly on that you miss something that you desire (and typically activates a desire to improve oneself), the other type of envy focuses more on the other person who holds the advantage (and typically includes a wish that the other did not have this advantage). Research found that everyone experiences these emotions once in a while, and both occur equally often.

When you think about the situation you described in the beginning of this study, which type of envy did you feel? (if you had not felt any envy, than you do not need to answer this question).⁴

Envy Type A: the envy that focuses most on what you miss yourself

Envy Type B: the envy that focuses most on the other person and his or her advantage

They then answered the question “My envy type was” on a scale from -3 (*Type A*) to +3 (*Type B*).

The more they scored in the direction of Type A, the more benign envy they experienced, while the more they responded toward Type B the more malicious envy they experienced.⁵

Results

Main analysis. We first analyzed the responses of participants across the two conditions similarly to the analyses in Study 1. Table 3 shows means and standard deviations of all variables and correlations among them. For the main analysis, we performed a multiple regression analysis to test which of the feelings were associated with schadenfreude. The model explained a substantial proportion of the variance in schadenfreude, $F(7, 168) = 18.41$, $p < .001$, adjusted- $R^2 = .41$. Table 2 displays the results of the multiple regression analysis.

The general question about envy, which did not distinguish between the envy types, did not have a significant effect on schadenfreude. This may seem to imply that envy is not an antecedent for schadenfreude when controlling for the other variables included in the analysis. However, the question that measured which type of envy was experienced by participants showed a clear effect: the more participants experienced the malicious type of envy, the more schadenfreude they were likely to experience. We also found that anger was again an important antecedent of schadenfreude. The other variables did not significantly predict schadenfreude when controlling for the other variables.

Effects of the manipulations. Table 4 displays the responses per condition and the statistical tests comparing responses between conditions. The manipulation of deservedness clearly was effective; participants who recalled a deserved advantage appraised it as more deserved than those who recalled an undeserved advantage.

Envy and envy type. As expected, the deservedness manipulation did not affect the intensity of the measure of general envy. This is consistent with the idea that the general envy measure reflects both benign and malicious envy, and thus should not be influenced by the deservedness manipulation. For the measure that tested the type of envy, the manipulation of deservedness did have an effect. As expected, participants who recalled a deserved advantage felt relatively more of the benign type of envy than those who recalled an undeserved advantage. Note that even in the undeserved condition the average response to the envy type was slightly in the direction of benign envy. We think that this is likely the case because a benign type of envy is a more socially desirable response than a malicious type of envy is (Van de Ven et al., 2009).

Other variables. The manipulation did not affect perceived importance of the advantage the other person held. Participants were angrier at the other and disliked them more if the advantage was undeserved than if it was deserved. For inferiority we found that participants felt more inferior if the other's advantage was deserved than if it was undeserved. Finally, schadenfreude was more intense when the other's advantage was undeserved than if it was deserved.

Mediation analysis. We tested whether the effect of the manipulation on schadenfreude was mediated by the other feelings and thoughts we measured (deservedness, domain importance, envy, envy type, anger, dislike, and inferiority). We conducted mediation via bootstrapping, following the procedure of Preacher and Hayes (2008) with 10000 samples at a 95% CI with bias corrected intervals.

The effect of the manipulation of deservedness on schadenfreude ($b_{\text{total effect}} = -1.38$, $se = 0.26$, $t = 5.24$, $p < .001$) became non-significant when the mediators were added ($b_{\text{direct effect}} = 0.09$, $se = 0.32$, $t = 0.26$, $p = .792$). As with the multiple regression analysis we reported earlier, only anger and the type of envy had a significant effect on schadenfreude. Indeed, these two variables mediated the effect of the deservedness manipulation on schadenfreude (95% CIs: anger -1.39 to -0.40; and envy type -0.36 to -0.02).

Discussion

This study again found that malicious envy is an antecedent of schadenfreude, even when accounting for other important factors. We now also found this effect in a language that does not have two separate words for the envy types. Additionally, the study replicated earlier findings implicating deservedness as an important antecedent of schadenfreude (Feather & Nairn, 2005; Feather & Sherman, 2002; Van Dijk et al., 2005, 2009). Furthermore, we confirmed earlier work that perceived undeserved advantages held by another person trigger more malicious envy (Smith et al., 1994; Smith & Kim, 2007; Van de Ven et al., 2012). Crucially, we added to these findings by showing that a manipulation of deservedness of the advantage another person holds influences felt schadenfreude, and that this effect was (partially) mediated by malicious envy.

Study 3

Study 3 was designed to replicate the findings of Study 2, but we changed three things. First, in Study 2 we asked participants which envy type they experienced on one question that ranged from benign envy to malicious envy. We now had participants indicate how much they experienced each of the envy types separately, to rule out that this unidimensional scale affected the results. Second, participants in Study 2 recalled a situation in which someone was better off than them in

something important, which was either deserved or undeserved. This specific request might have made it difficult for participants to recall the situation, and so we made the recall instructions easier by asking participants to “recall a situation in which someone else was better off than you were.”

A third change is that we added measures of admiration and sympathy for the superior other. Feather et al. (2013) indicated that benign envy led to sympathy, which then reduced schadenfreude. From our perspective, their measure of benign envy with the two questions “admire” and “want to be like the other” is likely closer to admiration than it is to benign envy. Van de Ven et al. (2009) found that feelings of admiration resemble benign envy more than malicious envy, but also that admiration is distinct from benign envy. Although benign envy and admiration are similar in some aspects, they are clearly different on others. For example, benign envy feels frustrating while admiration does not (Van de Ven et al., 2009). Furthermore, Van de Ven et al. found that benign envy triggers a motivation to improve oneself, but admiration did not. Admiration seems to trigger a motivation to internalize the ideals of the admired other (Schindler, Zink, Windrich, & Menninghaus, 2013). There are thus theoretical and empirical grounds to differentiate benign envy from admiration, and we now included admiration and sympathy to explore how these variables relate to schadenfreude when we also include measures for benign and malicious envy.

Method

The procedure was identical to Study 2, except for the points mentioned in this section.

Participants. We aimed to get 350 MTurk participants and eventually had 349 participants ($M_{\text{age}} = 32.18$ years, $SD = 10.26$, range 18-73, 210 males, 139 females) who were paid \$0.40 for participating.

Procedure. Participants recalled a situation in which someone else was better off than them. The instructions were nearly identical to before, but we simplified the recall by leaving out the specification that the advantage needed to be deserved or undeserved and that it needed to be important. After the initial measures, but before those of schadenfreude, participants now also indicated agreement with the statements “I admired the other” and “I felt sympathy for the other” (0 not at all; 6 very much so). Most importantly, after the previously used measure of schadenfreude (α

= .91) we again explained the envy types to the participants. We then asked them “How much did you experience these envy types in the situation you had recalled in the beginning?,” after which they responded to “Envy Type A: the envy that focuses most on yourself and that you miss out on something that you would like to have” (which reflects benign envy) and “Envy Type B: the envy that focuses most on the other person and his or her advantage” (which reflects malicious envy) (0 not at all; 6 very much so).

Results and Discussion

The descriptive statistics and correlations between variables in Study 3 can be found in Table 5. The general pattern of correlations was similar as before. A notable difference is that in this study the general measure of envy (which combines benign and malicious envy) now did correlate with schadenfreude. In the general correlation matrix, we see that benign and malicious envy were negatively related, but that both were positively related to the general measure of envy, as should theoretically be the case. Critically, malicious envy was related to schadenfreude, while benign envy was not. Furthermore, we see that admiration was positively related to benign envy and negatively to schadenfreude. Sympathy was unrelated to both envy types, and positively related to schadenfreude.

The main analysis was again the regression analysis with the other variables as predictors of schadenfreude. This model was again significant, $F(10, 334) = 19.65, p < .001$, adjusted- $R^2 = .35$. The details can be found in Table 2. We replicated the earlier findings that more undeserved advantages and more disliking of the increased schadenfreude over a misfortune. The main finding was that we replicated the earlier results showing that malicious envy positively affected schadenfreude, while benign envy did not.

Admiration and sympathy had been included to explore their relationship to our other variables. Admiration correlated negatively with schadenfreude in our study, which is consistent with the findings of Feather and colleagues, who found that their measure combining “admire” and “be like the other” also had a negative (indirect) effect on schadenfreude. This is consistent with our view that the construct they labeled as benign envy might actually be admiration. We found that sympathy

correlated positively with schadenfreude, which seems at odds with the findings of Feather et al. (2013) who found a negative correlation. Note that Feather et al. used a measure of sympathy *regarding the failure*. It makes sense that the more one sympathizes with someone over failing at something, the less one experiences schadenfreude over the same failure. Our measure related to sympathy in general toward the other person, though why this difference in focus should produce a distinctive pattern is unclear.

In the current study, in which we simplified the recall instruction compared to Study 2 and measured the envy types with two separate questions instead of one question, we replicated the earlier finding that malicious envy is an important antecedent of schadenfreude, while controlling for other possible influences.

General Discussion

Three studies supported the idea that malicious envy is associated with more intense schadenfreude, but that benign envy is not. We found this to be the case both in the Netherlands (where two separate words are used for the two envy types) and the U.S. (where the word envy is used for both types). We also found it when controlling for perceived (un)deservedness of the other's advantage, disliking of the other, anger, and feelings of inferiority. This latter finding is important because these four constructs, in some form, are typically seen as part of the envy experience (Smith & Kim, 2007). Finding a unique effect of malicious envy independent of these constructs may help solve an ongoing discussion in the emotion literature on the relationship between envy and schadenfreude.

Envy and schadenfreude

When comparing previous studies that yielded contrasting results on the relationship between envy and schadenfreude, it can be seen that the conceptualization of envy also varies. Research reporting a relationship between envy and schadenfreude typically used more hostility-related questions as a measure of envy, while research finding no such relationship typically used more desire-related questions or more general envy questions (see Van Dijk et al., 2006). This difference is consistent with our view on the distinction between malicious and benign envy.

Previous research has shown that both types of envy share many important characteristics – as both result from a frustrating upward social comparison in a domain that is important to oneself (Fiske, 2011; Smith & Kim, 2007; Miceli & Castelfranchi, 2007), but it has also been shown that envy leads to both constructive and destructive motivations (Crusius & Mussweiler, 2012; Schaubroeck & Lam, 2004; Van de Ven et al., 2009). This also explains why there is joy over misfortune after malicious envy, but not benign envy, as the motivational goal of malicious envy is to hurt the position of the other to prevent the other from being better off. If a misfortune befalls the superior other this motivational goal is satisfied, triggering positive feelings (i.e., schadenfreude). Thus, by examining whether malicious envy, but not benign envy, relates to schadenfreude, we contribute to integrating and explaining previous contradictory findings.

Envy

Our research also provides a potential measure of the envy types, even in countries where only one word exists for envy. In languages such as Dutch or German different terms can be used to measure or manipulate the two envy types; this is not possible in languages that use only one term for envy. The measure that we used in Studies 2 and 3, in which we explain to participants that two envy types exist and ask them to indicate which of the two they mainly felt (Study 2) or how much of each of the envy types they felt separately (Study 3), has been found to be an effective way to measure the envy types. The validity of this measure is supported in at least four ways: First, the measure was validated with a Dutch sample using the Dutch words for benign and malicious envy (see Footnote 5). Second, the correlations of this measure with related constructs are consistent with other work on the envy types. Third, a manipulation known to affect benign and malicious envy (Van de Ven et al., 2012) had the same effect on this novel measure. Finally, in the current set of studies the measures predicted schadenfreude, as the theory on the envy types predicted. In general, we think the measure used in Study 3, which allowed people to indicate separately for each envy type the extent to which they experienced it, would be preferred over the measure of Study 2 as the measure of Study 3 also allows people to respond that they experienced both or neither.

Alternative views on the envy types. The distinction between the envy types that led to our hypotheses is based on three empirical studies (Van de Ven et al., 2009) and earlier theoretical ideas (e.g., Elster, 1991; Foster, 1972; Kant, 1780/1997; Neu, 1980; Parrott, 1991; Rawls, 1971; Smith, 1991). Tai, Narayanan, and McAllister (2012) criticized the distinction between benign and malicious envy for confounding the experience of envy with its consequences. Tai et al. acknowledge that envy has both positive (moving up) and negative (pulling down) behavioral consequences, but argue that which behavior follows from envy is contingent upon characteristics of the person and the situation. We think this view and our view are compatible: we also think that aspects of a situation (or how the situation is construed by the person, which might depend on personality) influence the outcome of envy. Tai et al. would likely see this as an interaction effect between a situational variable and envy affecting a behavioral outcome. Van de Ven et al. would describe the same effect as an appraisal of the situation that triggers a certain type of envy which in turn influences subsequent behavior (e.g., Van de Ven et al. 2012). This view follows the perspective that motivations are an integral part of emotions (as we explained in the introduction, see Frijda, 1986).

Both these perspectives on envy have the goal to eventually understand when envy will be constructive and when it will be destructive. The method of Tai et al. (2012) could have advantages when studying envy in a language that only has one word for it. It can also be beneficial if one is mainly interested in measuring how people feel: a measure of *envy* has the benefit of measuring both the benign and malicious type of envy and is thus a good measure if one wants to know how painful someone finds a threatening upward social comparison. Differentiating the envy subtypes, as we did in the current research, can be useful if one also wants to know how people are likely to behave following the envy-eliciting situation.

We also think that making a distinction between benign and malicious envy actually helps to make research on envy less divided. As we discuss in the introduction, some scholars measured envy with questions such as “*I want to be like the other*” (Feather & Sherman, 2002), while others used an envy measure that contained questions like “*Frankly, the success of my neighbor makes me*

resent them" (Smith et al., 1996). Making it explicit that different subtypes of envy exist also helps scholars to make it explicit how they see (and measure) envy.

Finally, the current research is also an example of why it can be theoretically useful to distinguish the envy types, as it helped to make predictions on when envy is likely to lead to schadenfreude and when it will not. To us, both seeing envy as one experience and seeing it as an experience with two subtypes are valid viewpoints. The level of analysis at which one wishes to examine a situation determines which viewpoint will be more helpful in that situation.

A second alternative view on the existence of envy types is that only one of the two types should be considered to be envy proper. For example, Parrott and Smith (1993, p. 908) defined envy as arising from a situation in which someone else has something that a person lacks, where this person "either desires it or wishes that the other lacked it," suggesting that ill will is usually part of the experience of envy. This widely used definition has the advantage of fitting with more recent philosophical views on envy and with classic literary exemplars of individuals experiencing the emotion (Smith, 2008). However, some scholars question whether any ill will experienced toward the envied person is actually part of envy at all. In this line of thinking only coveting what someone else has should be considered part of the envious experience. Malevolence might sometimes arise from envy, but is not an integral part of it. It is this malevolence that is then related to schadenfreude as we find in this manuscript. This view of envy is consistent with the operationalization of envy as mainly coveting (Hareli & Weiner, 2002; Leach and Spears, 2008). Interestingly, other scholars such as Miceli and Castelfranchi (2007, p. 459) argued in their review on envy that the coveting aspect is actually not a defining feature of envy. They favor the view that "ill will and the aggressive goal against the envied are in our view necessary ingredients of envy." From this perspective, it might be a surprise that a general measure of envy (that does not differentiate between benign and malicious envy) is only weakly related to schadenfreude in our studies.

A third view on the distinction between the envy types is postulated by Feather et al. (2013). They see benign envy as a blend of envy and admiration, malicious envy as a blend of envy and resentment. This alternative view is again pretty close to the view we base the predictions for our

studies on. In our view, the difference is that we labeled those blends with the terms benign and malicious envy and tried to define them based on our previous research. From the perspective of a person whose language does not have a word for say benign envy, it makes sense to describe it as a blend of experiences for which words do exist (envy and admiration in this case). After all, data indeed shows that benign envy is closer to admiration than malicious envy is (Van de Ven et al., 2009). From the perspective of a person whose language does have two words for the envy types (as some of the authors of this manuscript are), it makes sense to label them as different experiences. The fact that multiple languages have two words for these envy types (besides one for admiration as well) and that people in some other countries found other ways to refer to these envy types (such as “white” and “black” envy in Brazil and Russia), suggests that at least some cultures think that making the distinction and labeling these envy types is useful. We think that giving these envy types labels, just as some languages and cultures already do, allows us to study these experiences more precisely.

We think that also if one sees the envy types as blends, it is still important to test which aspects of the experiences that contribute to the blend are then combined into that blend (e.g., the frustrating feeling of envy, the perception that the other deserves the advantage from admiration, etc.). We think that if one were to test this for envy, we think the resulting experiences would likely be very close to our definitions of benign and malicious envy. Further research into how admiration, benign envy, and malicious envy and the motivations that follow from them relate is certainly welcome. Finally, note that our data shows that malicious envy, that Feather et al. (2013) describe as a blend of envy and resentment, still predicted schadenfreude when we controlled for general envy and resentment. The blend that is malicious envy thus seems to be more than just the parts that contribute to it.

These different viewpoints on what envy is and what it does clearly call for more research on envy. Consensus among scholars can be expected regarding the statement that envy, in the most general sense, is the pain at the good fortune of others, as Aristotle already defined it. However, from this point of consensus, definitions diverge. Some definitions emphasize a hostile component

(Miceli & Castelfranchi, 2007; Parrot & Smith, 1993) whereas others argue that only coveting should be considered envy (Hareli & Weiner, 2002; Leach and Spears, 2008). Others again see envy as being able to blend with other emotions, to form different experiences (e.g., Feather et al., 2013). Our view is that envy at the broadest level is the pain over the good fortune of others. But if we zoom in, we think that making a distinction between two envy types, which we label in English as benign and malicious envy, helps to understand people's behavior following upward comparisons better. Using this distinction allowed us to form new hypotheses and test those. Of course, this depends on how envy is operationalized, and it is exactly in this domain that disagreement exists. Envy can be used to refer to general envy, to envy defined as envy plus coveting, or to envy that is mainly defined as envy plus ill will toward the other. In the current literature envy is used to refer to all three of these operationalizations. We believe that making explicit how one sees envy (regardless of whether it is described as envy types, blends, or envy plus separate motivations) would help further our understanding of how people behave after painful upward social comparisons.

Schadenfreude

Our findings add to the already substantial evidence linking deservedness to schadenfreude: undeserved advantages lead to more schadenfreude, deserved ones to less (Feather & Nairn, 2005; Van Dijk et al., 2009). We found this both as an effect of a manipulation of deservedness (Study 2) and in the regression analyses (in three out of four samples). In addition, we also replicated earlier findings of a link between dislike of the other and schadenfreude in three of the four samples, confirming the earlier findings of Hareli and Weiner (2002). The same holds for the idea that anger (or resentment) causes schadenfreude (e.g., Feather & Sherman, 2002), as this link was also found in three of the four samples.

There is one finding from previous studies that we did not replicate. Our studies find no support for the influence of feelings of inferiority on schadenfreude. This seems in conflict with the work by Leach and Spears (2008) who found that prior feelings of in-group inferiority led to more schadenfreude if a successful outgroup failed, and also with work that found that a self-threat or having low self-esteem increased schadenfreude (Feather, 2008; Van Dijk et al., 2011a; 2011b). We

think that this apparent conflict might be explained by looking at the differences between these studies and ours. First, Leach and Spears' (2008) study used group-based comparisons, where an outgroup outperformed members of the ingroup, but not necessarily the participant him- or herself. Second, manipulations that triggered a self-threat prior to being exposed to a successful other (Van Dijk et al., 2011a), or having low self-esteem (Van Dijk et al., 2011b) have led to more schadenfreude. This could mean that prior feelings of chronic inferiority or threats to a group operate differently from the acute inferiority produced by a specific, invidious comparison. We agree that chronic inferiority is likely to have powerful effects on all sorts of outcomes and that it likely exacerbates schadenfreude, but perhaps it can also increase feelings of envy (Smith et al., 1994), which in turn leads to more schadenfreude, as we find in the current studies. Further research could test whether chronic feelings of inferiority, or feelings of inferiority that were not caused by the upward social comparison itself, have a different effect on schadenfreude than feelings of inferiority that arise specifically from the upward comparison.

We stayed methodologically close to other schadenfreude research in that the measure of schadenfreude is based on a projection or anticipation; we asked participants to report how they would feel if a superior other suffered a minor misfortune. This set-up using vignette studies is used for two important reasons. First, despite its prevalence, people are typically reluctant to admit experiencing schadenfreude (Smith et al., 1996). Admitting this in a hypothetical situation is easier for to people to do. Second, both envy (Salovey & Rodin, 1991) and schadenfreude (Leach, Spears, Branscombe, & Doosje, 2003; Van Dijk, et al. 2011a) are mainly present in domains that are important to one's self-view. Because what people find self-relevant and important varies so widely, creating in vivo inductions is difficult. Furthermore, the method we adopted here is used in most previous envy-schadenfreude research, including studies that did not find a direct effect of envy on schadenfreude (e.g., Feather & Nairn, 2005; Feather & Sherman, 2002; Feather et al., 2013; Hareli & Weiner, 2002). We believe this thus also increases comparability with those earlier studies.

Conclusion

The current set of studies found that people who experience malicious envy toward someone experience more schadenfreude when that person suffers a misfortune. This effect is independent of other known antecedents of schadenfreude, such as perceived undeservedness of the other's advantage, disliking of the other, anger, and inferiority. Thus, even if we operationalize (malicious) envy in a very basic, dressed-down manner (i.e., excluding all other factors), it still leads to schadenfreude. These findings help to obtain a better understanding of the antecedents of schadenfreude. They also help to reconcile seemingly contradicting findings on the relationship between envy and schadenfreude.

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References

- Aristotle. (350BC/1954). *The rhetoric and the poetics of Aristotle* (W. R. Roberts, Trans.). New York: Modern Library.
- Belk, R. (2011). Benign envy. *Academy of Marketing Science Review*, 1, 117-134.
doi:10.1007/s13162-011-0018-x
- Carver, C. S., & Scheier, M. F. (1990). Origins and functions of positive and negative affect: A control-process review. *Psychological Review*, 97, 19-35. doi: 10.1037/0033-295X.97.1.19
- Cikara, M., & Fiske, S. T. (2012). Stereotypes and schadenfreude: Affective and physiological markers of pleasure at outgroups' misfortunes. *Social Psychological and Personality Science*, 3, 63-71. doi:10.1177/1948550611409245
- Cosmides, L. & Tooby, J. (2000). Evolutionary psychology and the emotions. In M. Lewis & J. M. Haviland-Jones (Eds.), *Handbook of Emotions*, 2nd Edition. (pp. 91-115.) NY: Guilford.
- Crusius, J., & Lange, J. (2014). What catches the envious eye? Attentional biases in benign and malicious envy. *Journal of Experimental Social Psychology*, 55, 1-11.
doi:10.1016/j.jesp.2014.05.007
- Crusius, J., & Mussweiler, T. (2012). When people want what others have: The impulsive side of envious desire. *Emotion*, 12, 142-153. doi:10.1037/a0023523
- Elster, J. (1991). Envy in social life. In R. J. Zeckhauser (Ed.), *Strategy and choices* (pp. 49-82). Cambridge, MA: MIT Press.
- Feather, N. T. (1999). *Values, achievement, and justice. Studies in the psychology of deservingness*. New York: Kluwer Academic/Plenum Publishers.
- Feather, N. T. (2006). Deservingness and emotions: Applying the structural model of deservingness to the analysis of affective reactions to outcomes. *European Review of Social Psychology*, 17, 38-73. doi:10.1080/10463280600662321
- Feather, N. T. (2008). Effects of observer's own status on reactions to a high achiever's failure: Deservingness, resentment, schadenfreude, and sympathy. *Australian Journal of Psychology*, 60, 30-41, doi:10.1080/00049530701458068

- Feather, N. T., & McKee, I. R. (2009). Differentiating emotions in relation to deserved or undeserved outcomes: A retrospective study of real-life events. *Cognition & Emotion*, 23, 955-977. doi:10.1080/02699930802243378
- Feather, N. T., McKee, I. R., & Bekker, N. (2011). Deservingness and emotions: Testing a structural model that relates discrete emotions to the perceived deservingness of positive or negative outcomes. *Motivation and Emotion*, 35, 1-13. doi:10.1007/s11031011-9202-4.
- Feather, N. T., & Nairn, K. (2005). Resentment, envy, schadenfreude, and sympathy: Effects of own and other's deserved or undeserved status. *Australian Journal of Psychology*, 57, 87-102. doi:10.1080/00049530500048672
- Feather, N. T., & Sherman, R. (2002). Envy, resentment, schadenfreude, and sympathy: Reactions to deserved and undeserved achievement and subsequent failure. *Personality and Social Psychology Bulletin*, 28, 953-961. doi:10.1177/014616720202800708
- Feather, N. T., Wenzel, M., & McKee, I. R. (2013). Integrating multiple perspectives on schadenfreude: The role of deservingness and emotions. *Motivation and Emotion*, 37, 575-585. doi:10.1007/s11031-012-9331-4
- Fiske, S. T., (2011). *Envy up, scorn down: How status divides us*. New York: Russell Sage.
- Foster, G. M. (1972). The anatomy of envy: A study in symbolic behavior. *Current Anthropology*, 13, 165-202.
- Frijda, N. H. (1986). *The laws of emotion*. Mahwah, NJ: Erlbaum.
- Frijda, N. H. (1989). Emotion, cognitive structure, and action tendency. *Cognition and Emotion*, 1, 115-143. doi:10.1080/02699938708408043
- Hareli, S., & Weiner, B. (2002). Dislike and envy as antecedents of pleasure at another's misfortune. *Motivation and Emotion*, 26, 257-277. doi:10.1023/A:1022818803399
- Immordino-Yang, M. H., McColl, A., Damasio, H., & Damasio, A. (2009). Neural correlates of admiration and compassion. *Proceedings of the National Academy of Sciences of the United States of America*, 106, 8021-8026. doi:10.1073/pnas.0810363106.

- Kant, I. (1780/1997). *Lectures on ethics*. Cambridge, UK: Cambridge University Press.
- Krizan, Z., & Johar, O. (2012). Envy divides the two faces of narcissism. *Journal of Personality, 80*, 1415-1451. doi:0.1111/j.1467-6494.2012.00767.x
- Lange, J., & Crusius, J. (2014). Dispositional envy revisited: Unraveling the benign and the malicious side of envy. *Unpublished manuscript*.
- Leach, C. W., Spears, R., Branscombe, N. R., & Doosje, B. (2003). Malicious pleasure: Schadenfreude at the suffering of another group. *Journal of Personality and Social Psychology, 84*, 932-943. doi:10.1037/0022-3514.84.5.932
- Leach, C. W., & Spears, R. (2008). "A vengefulness of the impotent": The pain of in-group inferiority and schadenfreude toward successful out-groups. *Journal of Personality and Social Psychology, 95*, 1383-1396. doi:10.1037/a0012629
- Miceli, M., & Castelfranchi, C. (2007). The envious mind. *Cognition and Emotion, 21*, 449-479. doi:10.1080/02699930600814735
- Neu, J. (1980). Jealous thoughts. In A. O. Rorty (Ed.), *Explaining emotions* (pp. 425-464). Los Angeles: University of California Press.
- Parrott, W. G. (1991). The emotional experiences of envy and jealousy. In P. Salovey (Ed.), *The Psychology of Jealousy and Envy* (pp. 3-30). New York: Guilford.
- Parrott, W. G., & Smith, R. H. (1993). Distinguishing the experiences of envy and jealousy. *Journal of Personality and Social Psychology, 64*, 906-920. doi:10.1037/0022-3514.64.6.906
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods, 40*, 879-891. doi:10.3758/BRM.40.3.879
- Rawls, J. (1971). *A theory of justice*. Cambridge, MA: Harvard University Press.
- Roseman, I. J., Wiest, C., & Swartz, T. S. (1994). Phenomenology, behaviors, and goals differentiate discrete emotions. *Journal of Personality and Social Psychology, 67*, 206-221. doi: 10.1037/0022-3514.67.2.206

- Salovey, P., & Rodin, J. (1991). Provoking jealousy and envy: Domain relevance and self-esteem threat. *Journal of Social and Clinical Psychology, 10*, 395-413. doi:10.1521/jscp.1991.10.4.395
- Schaubroeck, J., & Lam, S. S. K. (2004). Comparing lots before and after: Promotion rejectees' invidious reactions to promotees. *Organizational Behavior and Human Decision Processes, 94*, 33-47. doi:10.1016/j.obhdp.2004.01.001
- Schindler, I., Zink, V., Windrich, J., & Menninghaus, W. (2013). Admiration and adoration: Their different ways of showing and shaping who we are. *Cognition and Emotion, 27*, 85-188. doi:10.1080/02699931.2012.698253
- Smith, R. H. (1991). Envy and the sense of injustice. In P. Salovey (Ed.), *The psychology of envy and jealousy* (pp. 79-99). New York: The Guilford Press.
- Smith, R. H. (2000). Assimilative and contrastive emotional reactions to upward and downward social comparisons. In J. Suls & L. Wheeler (Eds.), *Handbook of Social Comparison: Theory and Research* (pp.173 -200). New York: Plenum.
- Smith, R. H., & Kim, S. H. (2007). Comprehending envy. *Psychological Bulletin, 133*, 46-64. doi:10.1037/0033-2909.133.1.46
- Smith, R. H., Parrott, W. G., Ozer, D., & Moniz, A. (1994). Subjective injustice and inferiority as predictors of hostile and depressive feelings in envy. *Personality and Social Psychology Bulletin, 20*, 705-711. doi:10.1177/0146167294206008
- Smith, R. H., Powell, C. A. J., Combs, D. J. Y., & Schurtz, R. D. (2009). Exploring the when and why of Schadenfreude. *Social and Personality Psychology Compass, 3/4*, 530-546. doi:10.1111/j.1751-9004.2009.00181.x
- Smith, R. H., Turner, T. J., Garonzik, R., Leach, C. W., Urch-Druskat, V., & Weston, C. M. (1996). Envy and schadenfreude. *Personality and Social Psychology Bulletin, 22*, 158-168. doi:10.1177/0146167296222005
- Tai, K., Narayanan, J., & McAllister, D. J. (2012). Envy as pain: Rethinking the nature of envy and its implications for employees and organizations. *Academy of Management Review, 37*, 107-129. doi:10.5465/amr.2009.0484

- Takahashi, H., Kato, M., Matsuura, M., Mobbs, D., Suhara, T., & Okubo, Y. (2009). When your gain is my pain and your pain is my gain: Neural correlates of envy and schadenfreude. *Science*, 323, 937-939. doi:10.1126/science.1165604
- Van de Ven, N., Zeelenberg, M., & Pieters, R. (2009). Leveling up and down: The experiences of benign and malicious envy. *Emotion*, 9, 419-429. doi:10.1037/a0015669
- Van de Ven, N., Zeelenberg, M., & Pieters, R. (2011a). The envy premium: How envy increases product value. *Journal of Consumer Research*, 37, 984-998. doi:10.1086/657239
- Van de Ven, N., Zeelenberg, M., & Pieters, R. (2011b). Why envy outperforms admiration. *Personality and Social Psychology Bulletin*, 37, 784-795. doi:10.1177/0146167211400421
- Van de Ven, N., Zeelenberg, M., & Pieters, R. (2012). Appraisal patterns of envy and related emotions. *Motivation and Emotion*, 36, 195-204. doi:10.1007/s11031-011-9235-8
- Van Dijk, W. W., Ouwerkerk, J. W., & Goslinga, S. (2009). The impact of deservingness on Schadenfreude and sympathy: Further evidence. *Journal of Social Psychology*, 149, 290-292. doi:10.3200/SOCP.149.3.390-392
- Van Dijk, W. W., Ouwerkerk, J. W., Goslinga, S., & Nieweg, M. (2005). Deservingness and schadenfreude. *Cognition and Emotion*, 19, 933-939. doi:10.1080/02699930541000066
- Van Dijk, W. W., Ouwerkerk, J. W., Goslinga, S., Nieweg, M., & Gallucci, M. (2006). When people fall from grace: Reconsidering the role of envy in schadenfreude. *Emotion*, 6, 156-160. doi:10.1037/1528-3542.6.1.156
- Van Dijk, W. W., Ouwerkerk, J. W., Wesseling, Y. M., & Van Koningsbruggen, G. M. (2011a). Towards understanding pleasure at the misfortunes of others: The impact of self-evaluation threat on schadenfreude. *Cognition and Emotion*, 25, 360-368. doi:10.1080/02699931.2010.487365
- Van Dijk, W. W., Van Koningsbruggen, G. M., Ouwerkerk, J. W., & Wesseling, Y. M. (2011b). Self-esteem, self-affirmation, and schadenfreude. *Emotion*, 11, 1445-1449. doi:10.1037/a0026331

Zeelenberg, M., Nelissen, R. M. A., Breugelmans, S. M. A., & Pieters, F. G. M. (2008). On emotion specificity in decision making: Why feeling is for doing. *Judgment and Decision Making*, 3, 18-27. doi: 10.1.1.320.2260

Footnotes.

1. In Sample A the seven-point scale used for all questions actually ranged from 1 to 7 instead of 0 to 6 (except for the scale that assessed *perceived deservingness of the other's advantage*, which was assessed in the same way as in Sample B). For ease of interpretation and comparison between studies, we present the results of Sample A also on the 0 to 6 scales by subtracting 1 point from the original answers.
2. We had also added "I resented the other" as a measure of resentment, and included such a measure in all studies. Because anger and resentment correlated between .75 and .83, we chose to report only anger throughout the manuscript as that generally had the strongest effect on schadenfreude in the multiple regressions we conducted. If we replace anger with resentment, we find very similar effects in all studies. If we add both measures, the multiple regression analyses show that one of them has an effect on schadenfreude. In all these analyses, the effect of malicious envy on schadenfreude remains.
3. The study was only accessible to workers with > 50 earlier approved tasks, with a 95% acceptance rate of those performed tasks. The instruction also stated that if participants did not recall and write a short but serious situation in which they had been envious, we would have to reject their work. Note that we did not reject the work of any participant, but hoped that this warning would make people take the task seriously.

We had initially also added another manipulation asking participants to recall either a situation in which the other was better off in an unimportant or an important domain for exploratory reasons. For the current study we only reported the important conditions. If we include these conditions, there are no differences for the manipulation of deservedness and the only thing that differs in the multiple regression analyses is that dislike does become a significant predictor of schadenfreude (just as we found in the samples of Study 1 and Study 3).
4. Note that we instructed participants to not fill out this question if they did not experience any envy, and 4 of the 180 participants (2.2%) did not answer this question. Analyses including this variable thus have 176 participants.

5. To validate this measure, we presented 74 Dutch students with the information about the envy types that we used in the U.S. We gave them the same description that there are two types of envy, that both feel frustrating, but one focuses on what you miss yourself (Envy Type A), and one on the other person and his or her advantage (Envy Type B). We then asked them, using a nine-point answer scale, whether the feeling of benign envy (*benijden*) reflects Envy Type A or Envy Type B more (-4 Type A; +4 Type B), and asked the same for malicious envy (*afgunst*). After this, we also asked them to make a choice, between either classifying Envy Type A as benign envy and Envy Type B as malicious envy or the other way around.

Results confirmed that participants thought benign envy (*benijden*) reflected Envy Type A more ($M = -0.68$, $SD = 2.64$) while malicious envy (*afgunst*) reflected Envy Type B more ($M = 1.91$, $SD = 2.41$; *paired- t* (73) = 4.92, $p < .001$, $d = 0.57$). Both for benign envy, $t(73) = 2.21$, $p = .030$, $d = 0.26$, and for malicious envy, $t(73) = 6.82$, $p < .001$, $d = 0.79$, the means differed from the midpoint of the scale, suggesting that participants tended to agree with the classification. When asked to make a choice, 55 out of 74 (74%) indicated that Envy Type A was benign envy and Envy Type B was malicious, which differed from random choices or chance with $p < .001$. Participants were thus three times as likely to classify benign envy as type A and malicious envy as type B than the other way around. This provides support for our idea that this measure reflects benign and malicious envy.

Table 1

Mean Responses, Standard Deviations, and Correlations between Variables in Study 1

Question	Sample	<i>M</i>	(<i>SD</i>)	2	3	4	5	6	7	8
1 Deservedness	A	-0.75	(1.70)	-.05	-.19*	.15	-.19*	-.02	-.30***	-.34***
	B	-1.09	(1.62)	-.08	-.27**	-.01	-.37***	-.07	-.33***	-.39***
2 Importance	A	4.22	(1.27)		.18*	-.02	.18*	.31***	.16	.07
	B	4.25	(1.29)		.24**	.15	.21**	.20*	.25**	.15
3 Malicious envy	A	3.35	(1.60)			.37***	.42***	.18*	.40***	.41***
	B	3.42	(1.64)			.49***	.45***	.06	.34***	.49***
4 Benign envy	A	2.90	(1.70)				.15	.16	.17*	.05
	B	2.97	(1.63)				.29***	.24**	.21**	.34***
5 Dislike	A	1.91	(1.95)					.21*	.68***	.51***
	B	2.27	(1.88)					.18*	.66***	.59***
6 Inferiority	A	2.50	(2.00)						.28**	.07
	B	2.34	(1.83)						.29***	.21*
7 Anger	A	1.74	(1.69)							.43***
	B	1.86	(1.85)							.56***
8 Schadenfreude	A	2.36	(1.67)							
	B	2.46	(1.75)							

Note. * $p < .05$, ** $p < .01$, *** $p < .001$. All questions are scored on a scale from 0 *not at all* to 6 *very much so*, except the question about the perceived deservedness, which was measured from -3 *very undeserved* to +3 *very deserved*. $N_{\text{Sample A}} = 139$, $N_{\text{Sample B}} = 150$.

Table 2

Multiple Regression Analyses of the Effects of Predictors on Schadenfreude in Studies 1 to 3

Variable	Study 1 – Sample A			Study 1 – Sample B			Study 2			Study 3		
	β	$t(131)$	p	β	$t(142)$	p	β	$t(168)$	p	β	$t(334)$	p
Deservedness	-.20	2.68	.008	-.16	2.46	.015	-.06	0.73	.468	-.23	3.73	< .001
Importance	-.04	0.58	.561	-.05	0.83	.406	.04	0.71	.481	.04	0.85	.394
General Envy	-			-			.07	1.15	.252	.05	0.84	.403
Dislike	.35	3.58	< .001	.24	2.83	.005	.10	1.14	.255	.17	2.59	.010
Inferiority	-.05	0.60	.550	.05	0.76	.446	-.09	1.41	.159	.02	0.46	.648
Anger	.07	0.71	.478	.25	3.02	.003	.43	4.44	< .001	.17	2.52	.012
Admiration	-			-			-			.04	0.78	.437
Sympathy	-			-			-			.14	3.04	.003
Benign envy	-.07	0.82	.413	.11	1.50	.136	-			.06	0.97	.334
Malicious envy	.23	2.74	.007	.21	2.72	.007	-			.18	2.89	.004
Envy Type (B–M)	-			-			.16	2.58	.011	-		

Note. Regression coefficients in bold are significant. Envy type was measured with the Dutch words for malicious and benign envy in Studies 1a and 1b. In Study 2 and 3 U.S. based participants indicated which type they had experienced on a unidimensional scale in Study 2 (with benign envy on the low end of the scale and malicious envy on the high end) and on two separate questions in Study 3. $N_{\text{Sample A}} = 139$, $N_{\text{Sample B}} = 150$, $N_{\text{Study 2}} = 180$, $N_{\text{Study 3}} = 349$.

Table 3

Mean Responses, Standard Deviations, and Correlations between Variables in Study 2

Question	<i>M</i>	(<i>SD</i>)	2	3	4	5	6	7	8
1 Deservedness	-0.24	(2.20)	-.06	-.08	-.57***	.32***	-.67***	-.49***	-.33***
2 Importance	4.72	(1.22)		.27***	.22**	.04	.20**	.17*	-.04
3 Envy	3.92	(1.73)			.17*	.22**	.12	.14	.02
4 Dislike	2.65	(2.17)				-.02	.72***	.50***	.24**
5 Inferiority	2.45	(1.95)					-.07	-.12	-.04
6 Anger	2.38	(2.10)						.62***	.35***
7 Schadenfreude	2.47	(1.87)							.36***
8 Envy Type	-0.62	(2.06)							

Note. * $p < .05$, ** $p < .01$, *** $p < .001$. All questions were measured on a scale from 0 to 6, except Deservedness and Envy Type that were answered on a scale from -3 to +3 (higher scores indicate perceptions of deserved advantages/more maliciously envious responses). $N = 180$.

Table 4

Means and Standard Deviations by Condition in Study 2

	Undeserved		Deserved		Statistics		
	<i>M</i>	(<i>SD</i>)	<i>M</i>	(<i>SD</i>)	<i>t</i>	<i>p</i>	<i>d</i>
Deservedness	-1.84	(1.23)	1.38	(1.72)	14.46	< .001	2.15
Importance	4.78	(1.11)	4.66	(1.32)	0.67	.501	0.10
Envy	4.03	(1.67)	3.81	(1.79)	0.84	.400	0.13
Dislike	3.52	(2.13)	1.76	(1.83)	5.94	< .001	0.89
Inferiority	1.93	(1.85)	2.98	(1.91)	3.75	< .001	0.56
Anger	3.47	(2.01)	1.26	(1.52)	8.31	< .001	1.24
Schadenfreude	3.13	(1.82)	1.80	(1.68)	5.09	< .001	0.76
Envy Type	-0.15	(2.21)	-1.11	(1.77)	3.18	.002	0.48

Note. *N* = 180. All questions were measured on a scale from 0 to 6, except Deservedness and Envy Type, which were answered on a scale from -3 to +3 (higher scores indicate perceptions of deserved advantages/more maliciously envious responses).

Table 5

Mean Responses, Standard Deviations, and Correlations between Variables in Study 3

Question	<i>M</i>	(<i>SD</i>)	2	3	4	5	6	7	8	9	10	11
1 Deservedness	0.15	(1.77)	-.11*	-.14**	-.50***	.13*	-.47***	.55***	.10	-.41***	.12*	-.32***
2 Importance	4.06	(1.51)		.36***	.22***	.15**	.22***	.05	-.16**	.17**	.20***	.07
3 Envy	3.76	(1.76)			.28***	.36***	.31***	.08	-.04	.26***	.20***	.28***
4 Dislike	2.09	(1.95)				.17**	.72***	-.34***	.13*	.50***	-.04	.37***
5 Inferiority	2.67	(1.89)					.22***	.21***	.07	.14**	.14**	.21***
6 Anger	1.81	(1.83)						-.27***	.08	.50***	-.08	.47***
7 Admiration	2.36	(1.85)							.11*	-.17**	.20***	-.16**
8 Sympathy	0.79	(1.18)								.16**	-.00	.05
9 Schadenfreude	2.02	(1.82)									-.06	.39***
10 Benign Envy	3.81	(1.89)										-.50***
11 Malicious Envy	2.17	(1.92)										

Note. * $p < .05$, ** $p < .01$, *** $p < .001$. All questions were measured on a scale from 0 to 6, except Deservedness that was measured on a scale from -3 to +3 (higher scores indicating perceptions of deserved advantages). $N = 349$.